27. The operations of the Survey Party were confined to the Kánara and Kolába Divisions of the Southern Circle. The detail work done in Kánara on the 4″ scale during the year was 348 square miles at an average cost of Rs. 80 per square mile as against Rs. 69 in the preceding year. In Kolába, 15 square miles were completed on the 8″ scale at a cost of Rs. 1,633 or Rs. 109 per square mile. There was thus a reduction of expenditure in the latter Division by Rs. 45 per square mile as compared with 1894-95 (no detail survey was done in the Division during 1895-96) and an increase by Rs. 11 per square mile in the former.

CHAPTER II.

MANAGEMENT OF STATE FORESTS.

I.—REGULATION OF MANAGEMENT.

(*a*).—Working-Plans and their Control.

28. The Working-Plans Division of the Southern Circle was in the administrative charge of Mr. Copleston from 1st to 31st July 1896, and of Mr. Talbot from 1st August 1896 until 4th April 1897, and on the transfer of the latter officer to the Belgaum Division, the former was again put in charge.

29. Party I, under Mr. H. Mitra, Extra Assistant Conservator of Forests, was engaged in the organization of teak coppice in Dhárwár, and the following table shows the work done by the Party during the season of 1896-97 :—

Area estimated.	Linear miles surveyed.	Stone cairns and earthen mounds erected.	Test trees felled.	Number of compartments formed.	Test area enumerated.	Area for which data have been collected for the preparation of working-plans.	Number of tracings prepared.	Total cost incurred.	Cost per acre.
								Rs.	Pies.
99,335 ...	55	1,305	30	327	23,997	99,335	7	6,063	11·7

30. It is not possible to compare the work done last season in Dhárwár by Party I, with that done by it in 1895-96 in Kánara, the forests of Dhárwár being so much easier than the heavy timber-forest of Kánara to work in.

31. The field work in Dhárwár consisted mainly in the counting of all the mature exploitable teak trees above 4″ in diameter at breast-height in the compartments of the forests of Dhárwár, Kalghatgi and Bankápur. Mr. Mitra, who was in charge of the plan, reports that the plan is on the same lines on which the Kolába schemes were prepared, with the additions that (1) all the coupes have been permanently laid on the ground, (2) that the mature teak trees in the first 10 years' coupes have been counted wholesale, and (3) that the standing stock in the remaining 30 years' coupes has been estimated by the 'test area' and 'eye-estimate' methods. The proposed plan does not, however, commend itself, but the *data* collected by Mr. Mitra will be availed of, as far as possible, for a suitable plan which is now being prepared by Mr. Woodrow, Divisional Forest Officer, Dhárwár.

32. The work done during the year by Party II, under Mr. Sátáráwála, consists of 41,962 acres of Yellápur, for which full *data* for the preparation of working-plans were collected, at a cost of Rs. 25,077 or 9 annas 7 pies per acre. This is most satisfactory as compared with the work done during 1895-96 which was fully 1,700 acres less than that in the year under report, and yet the cost per acre was higher by Re. 0-6-10. But the year 1895-96 cannot fairly be compared with the year 1896-97, as in the former, half of the work lay on the Arbail ghâts, excessively difficult country to work in, and this accounts for the increased cost and rate per acre for that year.

33. The decrease in cost and the increase in the quantity of work done in 1896-97, are ascribed by the Divisional Officer to the following four causes, *viz.* :—

Firstly.—The area gone over was flat and gently undulating and, therefore, easily accessible from all sides.

Secondly.—The area was already cut up by roads and nálás and this lessened the work of demarcation.

Thirdly.—Labour-supply was plentiful and sustained, and

Fourthly.—Topographical survey maps were all available so that not much time was lost in surveying.

34. The details of work done by the Party during the year, as compared with the year previous, are given below:—

Name of Party.	Jungle cut and cleared.	Linear miles surveyed.	Posts fixed.	Test trees felled.	Number of compartments formed.	Test area enumerated.	Area for which full data for the preparation of plans have been collected.	Total cost.	Cost per acre.	Remarks.
								Rs. a. p.	Rs. a. p.	
Party II ...	Yellápur Range in Southern Division, Kánara.	93·9	1,315	52	62	3,251·0	41,962·4	25,076 10 7	0 9 6·7	
		66	1,522	54	40	1,636	25,007	25,684 0 0	1 0 5·1	1895-96.
		+27·9	−207	−2	+22	+1,615	+16,955·4	−607 5 5	−0 6 8·4	Difference.

35. The average cost per acre for field work proper, *i. e.*, from 1st November 1896 to 31st May 1897, was 6 annas 7 pies as against 8 annas 7 pies for the same period in 1895-96; and, as stated above, the cost for the whole year was also less—9 annas 7 pies as compared with Rs. 1-0-5·1.

36. Government orders on the working-plan of the Gund series in the Northern Division of Kánara were received during the year and contracts were given out in those forests for the supply of teak and blackwood logs to the Coast-Timber-Depôt at Kôdibág as prescribed in that plan.

37. As required by paragraph 3 of Government Resolution No. 9450, dated 26th November 1896, the Divisional Forest Officer reports that he worked in the forests of the Gund Circle on 21st, 22nd and 23rd of November 1896 and again on 28th to 31st May and 1st June 1897.

II.—WORKING OF THE YEAR.

(*a*).—Communications and Buildings.

38. Form No. 51, appended, gives datails of works executed during the year under report:—

39. "Roads and Bridges" cost Rs. 8,546, and Buildings, &c., Rs. 16,018.

40. In the Northern Division of Kánara, the construction of 9 buildings for forest subordinates was undertaken and partly done at a cost of Rs. 7,487, and additions and alterations were effected to the Range Office building at Haliyál, the cost incurred being Rs. 93. A road from Barchi to Nána-Kesrodga was also constructed at a cost of Rs. 2,620. Repairs to the existing buildings and roads, &c., cost Rs. 246 and 361, respectively.

41. In the Southern Division of Kánara, a range office was built at Siddápur at a cost of Rs. 1,096, and 1 saw-mill shed and 24 huts for saw-mill workmen were built at Ittanbail in the Yellápur Range, for Rs. 1,067 and 503 respectively. Five wells were newly built (Rs. 1,800) and the one that had been partly built at Baswankop in the previous year was completed (Rs. 186). Two roads, one from Bilki to Siddalgundi and the other from the Yellápur-Dhárwár main road to the saw-mills at Ittānbail, were also constructed, the cost incurred being Rs. 2,343 and 103, respectively. Repairs to buildings cost Rs. 1,511 and to roads and paths Rs. 1,191.

42. In the Western Division of Kánara, the well at Hattikeri was completed (Rs. 210), a temporary náka was built at Manaki (Rs. 5) and the existing buildngs and roads were repaired (Rs. 1,080 and 167, respectively).

43. In Belgaum, Rs. 200 were spent on the extension of the timber cart-road from Nágargáli to Barchi and Rs. 150 on the construction of a road from the rest-house at Nágargáli to the Barchi-Nágargáli road. Repairs to existing buildings and roads were made and the cost incurred was Rs. 142 and 1,381, respectively.

44. In Dhárwár, Kolába and Ratnágiri, Rs. 347 were spent on minor original works and Rs. 275 on repairs to existing buildings, &c.

(*b*).—Protection of Forests from Injury.

(*1*).—*General Protection and Breaches of Forest Laws.*

(*a*).—*General Protection.*

45. The establishment sanctioned for the Supá and Gund Working-Circles in the Northern Division of Kánara, was not entertained (with the exception of guards) during the year, owing to the orders of Government on the question as to whether the old or the new programme-students were to be given preference in the appointments to the Rangers' grade, not having been received until after the close of the year.

46. The orders contained in Government Resolutions Nos. 4028 and 2645, dated respectively 29th May 1895 and 26th March 1896, were given effect to in selected portions of the Sirsi and Yellápur ranges. In Sirsi, 8 depôts were established, but as no demand for *soppu* arose, they were closed in October 1896. It is reported that owing to the hostile attitude of the garden-holders towards the introduction of the depôt system, one of the depôt-huts was burnt by incendiaries, but the offenders could not be traced. Four *soppu* depôts were also established in Yellápur and the special establishment sanctioned for the operations was entertained for 9 months, but the garden-holders remained hostile to the system and did not purchase any *soppu* from forests outside their *betta* limits. The system, however, seems to have had one effect, and that is the protection of certain portions of forests from illegal loppings. Rs. 3,326 were spent on the special *soppu*-depôt establishment, without any return in revenue.

(*b*).—*Breaches of Forest Rules.*

47. The cases taken into Court and disposed of by Magistrates during the year as compared with 1895-96, are detailed in the following statement:—

Division.	Cases of the year 1895-96.							Cases of the year 1896-97.							Percentage of failure.	
	Pending in Court on 1st July 1895.	Taken into Court during the year.	Total.	Disposed of by Magistrates during the year.			Pending in Court on 30th June 1896.	Pending in Court on 1st July 1896.	Taken into Court during the year.	Total.	Disposed of by Magistrates during the year.			Pending in Court on 30th June 1897.	1895-96.	1896-97.
				Convictions.	Acquittals.	Total.					Convictions.	Acquittals.	Total.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Northern Division, Kánara	15	12	27	20	4	24	3	3	10	13	5	4	9	4	16·6	44·4
Southern Division, Kánara	1	52	53	30	13	43	10	10	51	61	43	12	55	6	30·2	21·8
Western Division, Kánara.	4	60	64	33	29	62	2	2	47	49	34	15	49	...	46·7	30·3
Belgaum	3	11	14	7	3	10	4	4	24	28	18	5	23	5	30	21·7
Dhárwár	...	20	20	13	3	16	4	4	8	12	7	4	11	1	18·7	36·3
Bijápur	...	23	23	18	5	23	...	...	23	23	18	2	20	3	21·7	10
Kolába	15	375	390	272	46	318	72	72	219	291	110	57	16	124	14·4	34·1
Ratnágirí	1	7	8	7	1	8	...	...	8	8	7	1	8	...	12·5	12·5
Total ..	39	560	599	400	104	504	95	95	390	485	242	100	342	143	20·6	29·2

48. The figures, in the above statement, for 1895-96 for the three divisions of Kánara have been arranged according to the redistribution of ranges sanctioned in Government Resolution No. 10330 of 17th December 1896.

49. It will be seen from the above that there was a decrease in the number of prosecutions in the whole Circle of 170 as compared with 1895-96, and

that it is chiefly due to 156 less cases having been taken into Court in Kobába than in the previous year.

50. *Northern Division of Kánara.*—Of the 10 cases instituted during the year, 6 were for misappropriation of timber and other produce, 1 for setting fire to forests, 2 for digging trenches in reserved forests and 1 for illegal cultivation in reserved forests. The 3 cases pending in Court at commencement of the year, were for setting fire to forests. Of these 13 cases, 9 were disposed of by Magistrates and 4 (consisting of 1 for incendiarism and 3 for misappropriation of timber) were pending trial at close of the year. The percentage of failures was very high, 44·4 against 16·6, but the number of cases is so small that the percentage of failures, as compared with other years, is not a fair criterion of the degree of care exercised in bringing cases before the courts.

51. *Southern Division of Kánara.*—The percentage of failures was 21·8 against 30·2, although the number of prosecutions was about the same as in the previous year, *viz.*, 51 against 52. From this result it is evident that more care was exercised in taking cases before Magistrates. Of the 51 cases referred to above, 33 (9 in Sirsi, 23 in Siddápur and 1 in Yellápur) were for the illicit cutting of *soppu* or green leaves for manure, of which only 5 were let off by Magistrates for want of sufficient evidence. The other cases call for no remarks.

52. *Western Division of Kánara.*—The number of cases taken into court fell from 60 to 47. In the Kárwár Range, there were 18 cases of illegal cutting of firewood within the 5-mile-limit of the town, in 10 of which conviction was obtained. Of the 15 cases in which conviction failed in the division, 8 were for the illicit cutting of firewood within 5 miles of Kárwár, 2 for theft of wood, 2 for removal of timer without passes, 1 for cutting *soppu*, 1 for extracting bark of green mati-trees and 1 for opening a drain in reserved forest without permission. The *soppu* and firewood cases were let off as being trivial and the others for want of sufficient evidence.

53. The percentage of failures was 30·6 against 46·7 in 1895-96.

54. In *Belgaum*, 24 cases were taken into court during the year against 11 in 1895-96 with the result that convictions were obtained in 18 cases as against 7, the delinquents in most of the cases being old offenders. The increase in the number of cases is reported to have been due to the scarcity that prevailed in the district. There were no important cases to call for any remarks.

55. In *Dhárwár*, there were 8 cases against 20 in 1895-96, and the decrease is attributed by the Divisional Forest Officer to offenders, except in important cases, having been let off with a warning, owing to the great distress prevailing during the year. The percentage of failures (36·3 against 18·7) as compared with the previous year has doubled, but the total number of cases is very small to take percentages on.

56. In *Bijápur*, the number of prosecutions remained the same as in 1895-96. The Divisional Forest Officer reports that there was an "abnormal increase in forest offences in general, on account of famine," but that "prosecutions were only resorted to in cases when the offenders had committed similar offences before or when the gravity and frequency of the offences called for deterrent punishment." In only 2 cases, were the offenders acquitted, a fact which goes far to shew that the Divisional Forest Officer exercised good judgment in selecting cases for trial.

57. In *Kolába*, the number of prosecutions fell from 375 to 219, but both the percentage of failures (34·1 against 14·4) and the total number of cases pending at close of the year (124 against 72) do not compare favourably with the results of the preceding year.

58. In *Ratnágiri*, the prosecutions were chiefly in connection with the thefts of trees in the reserved forests in Málvan. Of the 8 cases taken into Court, the prosecutions failed in only 1, as the Magistrate held that the offence, *viz.*, theft of wood in the reserved forest, was of a trivial nature. The number of prosecutions as well as the percentage of failures remained the same as in the previous year.

59. The following table shows the number of cases compounded by the Divisional Forest Officers during the last two years :—

Division.	1895-96.				1896-97.			
	Total number of cases disposed of.	Number of cases commuted.	Number of cases discharged.	Amount of compensation recovered.	Total number of cases disposed of.	Number of cases commuted.	Number of cases discharged.	Amount of compensation recovered.
1	2	3	4	5	6	7	8	9
				Rs.				Rs.
Northern Division, Kánara ...	69	69	...	425	10	10	...	26
Southern do. ...	46	46	...	446	57	57	...	234
Western do. ...	36	36	...	74	50	50	...	226
Belgaum	110	110	...	79	167	167	...	216
Dhárwár	13	13	...	22	14	14	...	17
Bijápur	4	4	...	5	33	33	...	55
Kolába	76	76	...	345	116	116	...	275
Ratnágiri	6	6	...	10	16	16	...	13
Total ...	360	360	...	1,406	463	463	...	1,062

60. It will be seen that there was an increase of 103 in the total number of cases commuted during the year under report, and that the major portion of this increase was contributed by Kolába, Bijápur, Belgaum and Ratnágiri; while in the Northern Division of Kánara, the number fell from 69 to 10. In Kolába, although there were 40 cases more than in 1895-96, the amount of fines recovered was about Rs. 70 less, and the Divisional Forest Officer ascribes this result to the fact that there were not many offences of the sort that demanded heavy punishment, most of the cases commuted being for stealing green firewood and for breaches of forest rules. The increase in cases commuted in Bijápur, would have been still greater but for the leniency shown by the Divisional Officer owing to the great distress caused by the prevailing famine which induced people, otherwise law-abiding, to commit petty thefts of firewood, and 30 of such cases were let off with mere warning and this leniency was not misplaced under the peculiar circumstances of the year.

61. A large number of cases were let off with simple warning. There were 161 such cases in Belgaum, 110 in Kolába, and altogether 335 have been reported.

62. Appendix 52 shows the number of cases compounded and taken into court during the year under report. The following table gives the figures for the past two years :—

Division.	Taken into Court.		Compounded under Section 67.		Total number of cases.	
	1895-96.	1896-97.	1895-96.	1896-97.	1895-96.	1896-97.
Northern Division, Kánara ...	12	10	69	10	81	20
Southern do. ...	52	51	46	57	98	108
Western do. ...	60	47	36	50	96	97
Belgaum	11	24	110	167	121	191
Dhárwár	20	8	13	14	33	22
Bijápur	23	23	4	33	27	56
Kolába	375	219	76	116	451	335
Ratnágiri	7	8	6	16	13	24
Total ...	560	390	360	463	920	853

63. The total number of cases detected in the Circle decreased by 67, while the number compounded increased by 103, facts which appear to indicate that on the whole greater leniency was displayed towards offenders.

64. Arranged in Form I prescribed by Government Resolution No. 5148 of 9th July 1897, the cases fall under the different categories as follows :—

Division.	Cases taken into Court.				Cases compounded.				Cases undetected.				Total Cases.				Grand Total of Cases.
	Injury to Forests by fire.	Unauthorized felling or appropriation of wood and minor Forest produce.	Grazing without permission, or in tracts in which grazing is prohibited.	Other offences.	Injury to Forests by fire.	Unauthorized felling or appropriation of wood and minor Forest produce.	Grazing without permission, or in tracts in which grazing is prohibited.	Other offences.	Injury to Forests by fire.	Unauthorized felling or appropriation of wood and minor Forest produce.	Grazing without permission, or in tracts in which grazing is prohibited.	Other offences.	Injury to Forests by fire.	Unauthorized felling or appropriation of wood and minor Forest produce.	Grazing without permission, or in tracts in which grazing is prohibited.	Other offences.	
Northern Division, Kánara..	1	6	...	3	...	10	...	...	60	4	...	...	61	20	...	3	84
Southern do. ...	...	48	...	3	...	57	...	...	81	7	...	...	81	112	...	3	196
Western do. ...	...	40	...	7	...	48	...	2	72	16	..	3	72	104	...	12	188
Belgaum	...	21	3	...	...	155	...	12	128	67	...	...	128	243	3	12	386
Dhárwár	...	7	1	...	...	14	...	...	86	19	...	...	86	40	1	...	127
Bijápur	...	17	2	4	...	31	2	...	...	1	...	...	...	49	4	4	57
Kolába	7	159	9	44	9	94	5	8	114	302	...	...	130	555	14	52	751
Ratnágiri	...	6	...	2	...	15	...	1	3	28	...	3	3	49	...	6	58
Total ...	8	304	15	63	9	424	7	23	544	444	...	6	561	1,172	22	92	1,847

(2).—*Protection from Fire.*

65. The following table shows the results of fire-protection-measures reported for each division :—

Division.	Area in square miles.			Percentage of failures to area attempted.	Cost.		Proportion of area under fire-protection to total area of reserves.
	Attempted.	Failures.	Protected.		Per square mile protected.	Per acre protected.	
					Rs.	Pies.	
Northern Division of Kánara	* 364·60	78·17	286·43	21·43	17·56	5·27	*144·7
Southern do. ...	174·06	22·51	151·55	12·93	28·26	8·47	34·2
Western do. ...	265·29	0·43	264·86	·16	11·54	3·46	52·6
Belgaum	185·12	7·40	177·72	3 99	15·64	4·69	27·82
Dhárwár	55·57	3·72	51·85	6·69	19·13	5·74	15·23
Bijápur	114 67	...	114·67	...	1·50	·45	73·94
Kolába...	130·49	2·05	128·44	1·57	5·38	1·61	29·72
Ratnágiri	18·82	0·02	18·80	·10	·90	·27	·85
Total in 1896-97 ...	1,308·62	114·30	1,194·32	8·73	14·25	4·28	44·96
Total in 1895-96 ...	1,441·67	29·49	1,412·18	2·04	17·31	5·19	51·12
Increase or decrease in 1896-97	—133·05	+84·81	—217·86	+6·69	—3·06	—0·91	—6·16

* Includes part of the area of Supa gazetted under Section 19 of the Forest Act during the year.

66. A smaller area was fire-traced in all divisions (excepting Bijápur, Kolába and Ratnágiri) owing to the limited funds sanctioned for the work. The cost per square mile decreased from Rs. 17·31 to Rs. 14·25. The failures reported were, however, a good deal larger.

67. The comparatively large failures of the operations is partly ascribed to an abnormally dry year which increased the danger of accidental fire, and partly to the fact that the burnt areas are now given more accurately than they formerly were.

68. The percentage of failures was greatest in Northern Division of Kánara (21·43) and least in Ratnágiri (·10).

69. The apparent decrease in the percentage of area protected from fire to the total area of reserves, is owing to about 760 square miles of "Protected" forests having been converted into "Reserved" during the year under report.

70. As regards the want of success which attended attempts at fire-protection in the Northern Division of Kánara, the Divisional Officer reports that the causes of fires in most of the cases are not known with certainty, but are attributed to dacoits and way-farers; and to villagers in Supa who deliberately set fire with a view to induce an early and good crop of grass. The same causes apply equally to the forests of Yellápur and Mundgod in the Southern Division of Kánara, where fire-protection, though not much more successful, is not as bad as in the Northern Division of Kánara.

71. The number of fires that occurred during the year in the Northern Division of Kánara, was 61 against 37 in the preceding year, and the number of cases in which offenders were discovered was only 1.

72. The area attempted in Yellápur and Mundgod of the Southern Division of Kánara, amounted to 174·06 square miles against 223·67 in 1895-96. Failures were very few in the most valuable forests of Yellápur; the percentage of failure was 4·3 for 96·60 square miles of area attempted in Yellápur, while that for 77·46 square miles attempted in the less valuable forests of Mundgod amounted to 23·5. The fires in most cases in Mundgod, are attributed to carelessness on the part of the people from the famine-affected area, who were admitted into the forests to graze large herds of cattle in the latter part of September when there was practically no rain. The cause of increase in cost is reported to have been due to operations which were carried out in the Mundgod Range earlier than usual on account of the early ending of the rains. Owing to want of funds, no special measures were adopted in the Sirsi and Siddápur ranges.

73. The number of fires reported from this division amounts to 81, but in none were the offenders detected.

74. In the Western Division of Kánara, operations were carried out only in the Kárwár and Ankola ranges, no attempts having been made to specially protect the forests of the Kumta and Honávar ranges. A larger area was fire-traced in the Kárwár Range, while the area attempted in the Ankola Range remained the same as in the previous year. The year under report was a most unfavourable one in Kánara owing to the long drought, but, nevertheless, the protection afforded in this division was very satisfactory. Seventy-two fires were reported, but no offenders were detected.

75. The area under protection in Belgaum was decreased by 102·5 square miles. A larger area of valuable forests was, however, attempted in the Khánápur Range, with better results. The cost per square mile was Rs. 15·64 against Rs. 11·26 of 1895-96.

76. The number of fires reported from this division amounted to 128 against 246 in the previous year, but in no case were the offenders detected.

77. The area attempted in Dhárwár shows a decrease (10·58 square miles) and the results reported compare favourably with those of the previous year, except in regard to the cost which increased from Rs. 8·92 to Rs. 19·13 per square mile. There were 86 reported fires in the division.

78. In Bijápur, the area attempted was about the same as in the previous year and the protection afforded is most satisfactory. There were no forest-fires during the year, which is quite an unusual event in this district. It is reported that no fire-traces were burnt as there was no grass in the specially protected area owing to the absence of rains.

79. In Kolába, the area attempted was increased by 18·55 square miles, and the results reported compare favourably with those of the preceding year. The number of fires reported was 130 as against 179 in 1895-96. The causes of fires in most of the cases, are attributed to *ráb*-burning in private fields. Such cases can be dealt with under Rule 2 of the rules under Section 25 (*b*) of the Forest-Act, but it is not always possible to obtain conviction under this rule, unless the *ráb*-material is burnt in a field adjoining reserved forests, and the precautions required to be taken are neglected.

80. In Ratnágiri, the protection afforded was quite as good as usual. There were three fires reported during the year.

81. The following areas are reported to have escaped fire without the adoption of special measures :—

	Acres.
Northern Division, Kánara	353,159
Southern do.	819,910
Western do.	523,174
Belgaum	312,866
Dhárwár	182,466
Bijápur	83,234
Kolába	199,347
Total ...	2,474,156

82. The following table shows the number of fires which were reported and the number of cases in which the offenders were detected : –

Division.	Number of fires reported.	Number of cases in which Offenders were detected.					
		Taken into Court.			Let off with warning.	Compounded with.	Total.
		Convictions.	Acquittals.	Undergoing trial at close of the year.			
Northern Division, Kánara ...	61	1	2	1	...	...	
Southern do. ...	81	...	...	...	...	...	...
Western do. ..	72	...	...	...	...	...	...
Belgaum	128	...	...	...	...	...	...
Dhárwár	86	...	...	...	...	...	...
Bijápur	...	...	...	...	...	...	...
Kolába	130	...	...	7	...	9	16
Ratnágiri	3	...	...	...	2	...	2
Total ...	561	1	2	8	2	9	22

83. Of the 22 cases in which offenders were discovered, 2 were dismissed with a warning, as they were not wilful acts, 9 cases were compounded and 11 were brought up for trial. Three cases, out of the four taken into Court in the Northern Division of Kánara, were pending trial from the previous year. Conviction was obtained in only 1 of them, the remaining 2 having ended in acquittals.

84. The details of prosecutions for offences by fire, are given in the following statement in Form II prescribed by Government Resolution No. 5148 of 9th July 1897 :—

Division.	Details of prosecutions for offences by fire.						Remarks.
	Serial number of fire.	Acres burnt.	Character of offences (whether careless or intentional.)	Whether acquitted or convicted.	Section of law under which convicted.	Amount of punishment.	
Northern Division, Kánara ...	1 (35)*	3	Intentional.	...	...	...	Pending trial at close of the year.
Southern do. ...	...	...	...	...	...	...	
Western do. ...	...	...	...	...	...	...	
Belgaum	...	...	...	...	...	...	
Dhárwár	...	...	...	...	...	...	
Bijápur	...	...	...	...	...	...	
Kolába	7 (3, 7—9, 11—13)*	55	Careless.	...	...	...	Do. do. * Serial numbers in the registers.
Ratnágiri	...	...	...	...	...	...	
Total ...	8	58	...	...	...	...	

85. The origins of fires and the acreage burnt are as given below in Form III prescribed by the same Resolution :—

Division.	(A). Fires caused by accident or through carelessness in burning fire-lines.		(B) Fires entering the Forests by crossing exterior fire-traces.		(C) FIRES BEGINNING INSIDE THE RESERVE OR FIRE-TRACED AREA.														Causes unknown.		Total (A), (B) and, (C).	
					Owing to carelessness or accident.						By intentional Firing.											
					By workmen employed in the Forests, by purchasers of Forest produce and by Yah-cutters.		By villagers, travellers, &c., passing through the Forests.		By railway engines.		By lightning or by fire-balloons.		In order to obtain new grass.		In order to turn out game or to reduce cover.		Maliciously fired.		Total.					
	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.
Northern Division, Kánara ...	...	...	4	865	...	...	...	...	...	...	...	...	1	3	...	...	...	...	1	3	56	49,163	61	50,031
Southern do. ...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	1	165	11	9,605	12	9,770	69	28,304	81	38,074
Western do. ...	1	3	...	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	70	978	72	933
Belgaum	...	...	68	4,735	...	...	60	1,530	...	...	...	...	...	...	...	...	...	...	...	...	...	...	128	6,265
Dhárwár	1	94	17	2,668	...	...	53	5,189	3	102	...	...	...	...	7	1,045	...	...	7	1,045	5	8,754	86	17,852
Bijápur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kolába	2	8	22	264	1	4	42	539	2	37	...	...	...	...	...	...	...	...	...	...	61	2,361	130	3,213
Ratnágiri	...	...	2	12	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	13
Total ...	4	105	113	8,544	2	6	156	7,259	5	139	...	...	1	3	8	1,210	11	9,605	20	10,818	261	89,560	561	116,431

86. It will be seen from the above table that causes as to the origin of fires were not known in nearly 50 per cent. of the number of fires ; and that more than 25 per cent. of the fires were due to carelessness on the part of villagers or travellers passing through the forest, fires that are difficult to guard against owing to rights of way and to water accorded to villagers.

(3).—*Regulation of Grazing and Protection from Cattle.*

87. The area closed to all animals amounts to 659 square miles, to browsers 1,266, and that open to all animals to 3,321. Details of the areas closed and left open, respectively, in each of the several divisions, are given in Appendix 54.

88. The area closed to browsers during the year, shows an increase of 364 square miles. The total area closed to all animals, in the Circle, also increased by 64 square miles, but there was a decrease of 12 and 3 square miles in Dhárwár and Bijápur, respectively.

89. In Kánara, the grazing regulations remained unchanged.

90. The rules published by Government in their Resolution No. 3595, dated 23rd May 1890, were in operation in all the other Divisions of the Circle, except Bijápur, where the Kánara grazing system was introduced during the year by Government Resolution No. 9534, dated 28th November 1896.

91. Except plantations and cuttings, the whole of the forests in Kánara, Belgaum, Dhárwár and Bijápur were thrown open for free-grazing to the cattle from the famine-affected-districts in accordance with the orders contained in Government Resolution No. 8939, dated 11th November 1896, and the Kánara forests all along the Dhárwár frontier were resorted to by large herds of such cattle.

92. The number of cattle impounded during the year under report and the year before, is given below:—

Division.	Number of Animals impounded during 1895-96.			Number of Animals impounded during 1896-97.		
	From open Forests.	From closed Forests.	Total.	From open Forests.	From closed Forests.	Total.
Northern Division, Kánara ...	...	122	122	...	160	160
Southern do. ...	18	932	950	...	941	941
Western do. ...	4	100	104	32	93	125
Belgaum	1,235	3,257	4,492	5,166	3,106	8,272
Dhárwár	3,144	2,043	5,187	2,682	1,793	4,475
Bijápur	578	944	1,522	149	454	603
Kolába	1,204	846	2,050	650	855	1,505
Ratnágiri	...	84	84	...	93	93
Total ...	6,183	8,328	14,511	8,679	7,495	16,174

93. For the whole Circle, the result is an increase of 1,663 head of cattle, as compared with the number impounded in 1895-96.

94. The large number of impoundings in Southern Kánara, is ascribed by the Divisional Forest Officer to the cattle of professional graziers (*Dhangar Gowlies*) found grazing in the closed areas of Mundgod.

95. In the Belgaum Division, there has been a considerable increase in the number of animals impounded from open forest (5,166 against 1,235 of 1895-96) owing, it is reported, to the orders under which the forests were to be thrown open for free-grazing to outside cattle from the famine-affected area, not having been received by the Divisional Forest Officer until late in November 1896.

96. In Dhárwár and Bijápur, the number of cattle impounded has decreased by 712 and 919, respectively, owing to the general relaxation of rules consequent on famine. The 149 animals found grazing without permits in the open forests of Bijápur are reported to have been impounded before orders for free-grazing were issued. The decrease in the number of impoundings is also ascribed to the fact that a large number of cattle was sold by the owners, many died and some were removed to other districts on account of the scarcity of fodder.

97. The comparatively small increase or decrease in other divisions appears to call for no remarks.

98. The number of cattle covered by passes for open area that was found grazing in, and impounded from, closed forests, is as given below :—

Northern Division, Kánara	...	...
Southern do.	...	...
Western do.	...	93
Belgaum ...	...	1,755
Dhárwár ...	...	289
Bijápur ...	...	...
Kolába ...	...	69
Ratnágiri ...	...	...
Total	...	2,206

99. The fact must, however, be noted that a much larger number of cattle than are impounded enter the closures. Even when they are caught, it is impossible for one or two guards to drive all of them to the pound and a good many consequently escape.

100. Wire-fencing is a good means of protection against cattle. A start was made in this direction during the year, in Kolába, and 511 reels of galvanized barbed-wire were obtained on indent from England, for fencing in some of the exploited *coupes* of 1896-97.

101. To make the closures effective, measures are being taken to introduce wire-fencing in Dhárwár and Bijápur and an indent for the required quantity of barbed wire will be submitted to Government in due course.

(*c*).—Improvement of Forest Growth.

(*1*).—*Natural Reproduction.*

(1).—By Seed.

102. *Kánara.*—Owing to the early cessation, and in some parts to the bad distribution of the rains, natural reproduction by seed was not as successful as could be expected, although other conditions were naturally favourable in the district. But notwithstanding these disadvantages to combat with, continued measures taken during the past years to prevent fires and cattle from doing any appreciable amount of damage to the pick of the forests, had their own result and the Divisional Officer, Northern Division, Kánara, reports that natural reproduction was on the whole "very fairly successful," and that it "bids fair to be much more successful in future." In the Southern Division it was "fair" and in the Western Division "not unsatisfactory."

103. In the teak-bearing tracts in the Belgaum Division, conditions were favourable for reproduction by seed.

104. Owing to the failure of rain during the latter part of the monsoon natural reproduction by seed did not fare well in Dhárwár; and in Bijápur, the season was almost entirely rainless, and, therefore, reproduction was very unsatisfactory. In Kolába, it has been very slow on account of fires and trespass by cattle. In Ratnágiri, seedlings from fallen seeds have come up in places where the soil is suitable for them to germinate, and the slopes are slowly but steadily becoming covered with vegetation, but on the whole, reproduction by seed there is far from satisfactory.

(2).—By Coppice.

105. Coppice-growth is reported to have been satisfactory throughout the Circle except in a comparatively few cases in which the soil, or the stools, have become exhausted.

(*2*).—*Artificial Regeneration.*

106. The following areas are reported to have been treated under artificial regeneration in the *Northern Division of Kánara* :—

Supa Working-Circle.—Girdling No. II Compartments in Series IV and VIII (9,020 acres).

Gund Working-Circle.—Girdling No. II Compartments in Series X and XI (4,220 acres).

107. The practice hitherto followed of raising seedlings in nurseries and then transplanting them into forests is being gradually abandoned, as it does not give good results and the cost is comparatively large. The forest guards stationed at every forest *náka* are, however, made to raise some seedlings in the compounds of their respective *nákas* and to transplant them in suitable places in forests during the rains at no cost whatever to Government.

108. A piece of ground measuring about 5 acres was prepared for a plantation in Series XI, Compartment V, in view to a mixture of seeds being sown broad-cast during the rains of 1897.

109. *Southern Division of Kánara.*—The operations connected with the dibbling in of teak seed by the side of the felled trees, were not carried out to an appreciable extent during the year, as teak seed was very scarce and the result of the operations in the previous year was not satisfactory owing to the early cessation of the rains.

110. In Yellápur, 2 nurseries were formed; and 1,390 teak seedlings out of 3,315 that were put out in the forests are reported to have survived.

111. From nurseries prepared in several selected places of the Mundgod Range, 9,090 teak seedlings were transplanted in the forests. Of this number, about 5,720 are reported to be doing well.

112. Six bags of teak seed were sown broad-cast in the forests of Yellápur and Mundgod, with no satisfactory results.

113. The Divisional Forest Officer reports that "no satisfactory results from artificial reproduction can be expected either from dibbling in of seeds or from raising seedlings in nurseries for transplanting until a sufficiently large establishment is sanctioned to allow of such operations being carried out systematically under proper supervision."

114. *Western Division of Kánara.*—In the Kárwár Range, 900 fresh teak seedlings were raised in nurseries at the Márdi and Bálémané *Nákás*. The 400 teak seedlings referred to in paragraph 106 of the last Administration Report, were put out in the forests during the rains of 1896, but only 150 of these are reported to have survived.

115. In the Ankola Range, about 5,000 teak plants were planted out and 6,000 teak seeds were sown; of these two lots, 6,300 plants are reported to be thriving.

116. Almost all the plants that were transplanted from nurseries in the Katgál forests (Kumta Range) during past years, are reported to have died during the year under report.

117. About 14 maunds of seeds of sorts were sown broad-cast in the Kumta Range.

118. *Belgaum Division.*—Nothing was done in this direction during the year owing partly to press of work connected with other important operations, and partly to unsatisfactory nature of the results obtained in past years.

119. *Dhárwár.*—Owing to the unseasonable rainfall, forest-fires and harmful grazing, the attempts made in the way of artificial reproduction, were not attended with success.

120. *Bijápur.*—1,495 seers of seeds of sorts were collected and sown broad-cast, but the result was extremely poor.

121. *Kolába.*—Three plantations were started near large rivers in the Panvel, Nágothna and Roha ranges for raising teak seedlings to be planted out in *coupes* and in addition to these, seeds were dibbled in as opposed to broad-casting, by hired labour under the supervision of forest subordinates. All Forest Guards were made to collect 5 maunds of seeds of sorts for sowing and any additional quantity that was wanted and could be got was purchased from the wild tribes at 4 annas per maund.

122. A sum of Rs. 25,000 was sanctioned by Government for expenditure on sowing and planting operations in Kolába, and part of this sum was spent on

that account up to 30th June 1897. Owing to the dryness of the hills in the district, and to the difficulty in finding suitable places for nurseries in or near forests, such as the banks of streams and rivers having a constant water-supply, it is very doubtful, if anything in the shape of an equal return for the large amount of money spent on the raising of seedlings in nurseries and transplanting them in *coupes*, may be looked for. On the other hand, much may be said in favour of systematic sowings of seeds by dibbling in exploited areas. This method of sowing does not cost much and the seedlings need no further care. Sowing in coupes with a mixture of seeds, combined with a judicious selection of a sufficient number of healthy seed-bearing standards, appears to be the best means for obtaining both artificial and natural reproduction for the reboisement of felled areas. Of course, wire-fencing and efficient measures for fire-protection, would, to a large extent, favour the forest-growth.

123. *Ratnágiri.*—2 *khandis*, 4 *maunds* of seed were collected by guards and sown broad-cast in the forest, but the results were not successful.

124. 31,100 seedlings were raised in the nurseries and 10,760 plants were planted out in the Dápoli plantation.

(*3*).—*Early Thinnings.*

125. In the Northern Division of Kánara, 206 acres of the Barchi plantation and 697 acres of series XI, in the Gund Working-Circle, were thinned. It is reported that the exact area over which the thinning extended in the Supa Working-Circle, could not be ascertained as the operations were scattered all over the forests as formerly. In future, thinnings will extend over the same area as the main fellings.

126. In the Southern Division of Kánara, 5 square miles of the Mundgod forests were thinned.

127. In the Western Division of Kánara, 577 acres of the Kadrá, Mardi and Sulgeri teak plantations were thinned.

128. 4,500 acres were thinned in the Khánápur Range of Belgaum.

129. No such operations were carried out in the other divisions of the Circle.

(*4*).—*Other operations for the improvement of the Forest.*

130. In the Northern Division of Kánara, creepers were cut by the Forest Guards over the whole area of the organized forests, at no expense to Government. Creepers and inferior species were also cut out of the Barchi, Singatgeri and Bomanhalli plantations at a cost of Rs. 252.

131. In the Southern Division of Kánara, trees of inferior species which were impeding the growth of young teak were girdled to death at a cost of Rs. 130.

132. Inferior species on 1,290 acres in the Western Division, Kánara, and on 1,387 acres in the Belgaum Division, were also girdled to death.

133. In the Ratnágiri Division, creepers were cut by Forest Guards in the Khed and Málvan ranges, and trees of inferior species on 39 acres were girdled to death.

(*5*).—*Experiments.*

134. No experiments with exotic seeds were made during the year in any of the divisions of the Circle.

135. In the Southern Division, Kánara, experiments with seed of the *Santalum album* were made in the Yellápur and Mundgod Ranges, and 147 seedlings from 1′ to 4′ in height are reported to have survived.

136. All the *Swietenia macrophylla* seedlings planted out in Belgaum during 1894, are reported to be dead.

(*d*).—Exploitation of Major Forest Produce and (*e*).—Extraction and transport of Major Forest Produce by Land and Water.

137. There is nothing special to record under these heads.

(*f*).—Exploitation of Minor Forest Produce.

(*1*).—*Extraction of Fodder and* (*2*).—*Grazing.*

138. Under this head it may be appropriate to say something on the subject of fodder supplied to the famine-affected districts.

139. In accordance with the orders contained in Government Resolution No. 9158, dated 18th November 1896, arrangements for the cutting of grass were made early in December 1896, and a large quantity of grass was collected by departmental agency in the Northern and Southern Divisions of Kánara, and in Belgaum and Dhárwár. Hay-presses were set up in convenient places near the Southern Mahrátta Railway stations, and the grass collected was pressed into bales and despatched to Bijápur and other famine-affected districts, under the orders of the Conservator of Forests, on special duty. The expenditure incurred by the Divisional Officers in connection with these operations, was defrayed from famine-funds placed at their disposal, and separate accounts were rendered by them direct to the officer above mentioned.

(*3*).—*Miscellaneous Produce.*

140. There is nothing new to record under this head, except that Cassia bark was extracted departmentally in the Bágalkot and Hungund tálukas, so as to provide work for the famine-stricken people of the Bijápur District.

141. About 1,292 men, women and children were engaged in collecting the bark, the wages paid to them being in proportion to the quantity collected and brought into depôts, calculated at Rs. 8 per *khandi* of 480 lbs. Men and women were able to earn about 2½ to 3 annas each per diem, and the children about 1½ annas. A quantity of 471 *khandis* was collected at a cost of Rs. 4,155, and of this, 342 *khandis* were sold during the year for Rs. 3,861.

CHAPTER III.

GROSS YIELD AND OUTTURN OF FOREST PRODUCE.

NORTHERN, SOUTHERN AND WESTERN DIVISIONS OF KA'NARA.

142. The large teak exploited yielded 346,472 cubic feet against 352,817 cubic feet in 1895-96, and small teak such as poles, rafters, &c., aggregated 49,442 cubic feet against 55,360.

143. The large junglewood removed fell from 361,138 cubic feet in 1895-96 to 305,796 in 1896-97, but small junglewood rose from 100,575 cubic feet to 111,355. The number of *Jámba* (*Xylia dolabriformis*) sleepers prepared for the Southern Mahrátta and Bombay Baroda and Central India Railways was 88,187 against 26,337 of 1895-96.

144. The yield of large blackwood rose from 16,556 cubic feet in 1895-96 to 42,944 in 1896-97, and of small blackwood amounted to 639 cubic feet.

145. In the yield of teak, there is a decrease of 40,129 cubic feet in Northern Kánara, and this is mainly due to the complete failure of the contractor who undertook to supply girdled wood from the Gund forests to the Kódibág depôt. The Haliyál contractors also were very dilatory and did not bring in the full quantities agreed upon. The principal reason for the failure in the former case was, that owing to the early cessation of rains, there was a scarcity of water in the *Kálinadi* river and no timber could be floated down to the Kódibág depôt in consequence.

146. In consequence of the introduction of the Supa Working-Plan in the Northern Division of Kánara, large blackwood rose from 9,962 to 36,529 cubic feet in 1896-97, and junglewood fell from 70,412 cubic feet to 37,571 cubic feet. The plan provides for the systematic exploitation of teak and blackwood only; hence the labour hitherto devoted to junglewood has now been transferred to these two kinds. The number of *Jámba* sleepers, however, increased from 10,564 in 1895-96 to 29,410 in 1896-97.

147. In the Southern Division of Kánara, large teak increased from 114,593 to 124,298 cubic feet, and would have been greatly in excess of the increased quantity, but for the failure of the contractor referred to in para. 145 above to bring in to the Kódibág depôt girdled wood from the Waderookly, Shelébail, &c., forests, for the same reason as noted in that para. There was also an increase of 6,486 cubic feet in small junglewood and this was mainly due